



Northwestern High School Student Curriculum Guide

2010-2011



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ENGLISH

083 RESOURCE READING (9)

CREDIT = 1

In order to strengthen reading skills at a high school level, this course will provide the learning support student with a practical approach to mastering comprehension, inference, and vocabulary. Strategies to assignment completion and study skills will also be approached.

096 ACCELERATED ENGLISH (9)

CREDIT = 1

PREREQUISITE: Teacher Recommendation

The Accelerated English 9 program is designed for college-bound students of superior ability and motivation who want to develop a high level of proficiency in the areas of grammar, composition, literary analysis, and vocabulary acquisition. Major goals of the course include fostering an appreciation of the richness of literature and developing the writing skills which are essential for success in both high school and college.

098 ENGLISH (9)

CREDIT = 1

The English 9 program provides students with a good foundation in writing paragraphs, essays, and reports. Rules of grammar, punctuation, and spelling are reviewed as needed. Another area of major importance is the study of various forms of literature. Also emphasized are vocabulary development, study skills, note taking, and gathering information from a variety of sources.

099 BASIC ENGLISH (9)

CREDIT = 1

Students who have had difficulties with reading or language arts may be recommended by their teacher for placement in the Basic English 9 class. Basic reading and study skills are emphasized. The essentials of grammar and composition, as well as spelling and vocabulary development, will be studied.

100 ENGLISH (10)

CREDIT = 1

This course stresses skills and concepts in six major areas: grammar and mechanics, vocabulary, composition, speaking and listening, comprehension, and literature. Emphasis on these areas varies in an attempt to meet the needs of the students who often have fairly diverse backgrounds and aptitudes in language arts. The study of grammar and mechanics is improving the quality of the students' oral and written communication. Vocabulary is developed for optimum performance in standardized testing and personal usage. Composition is mainly expository and persuasive and frequently related to literature. Speaking and listening comprehension components introduce students to formalized speaking and listening and teach students to organize their ideas, support them, and present them in a unified and coherent form. The study of literature focuses on the form and allows the students to confront and discuss the universal problems and ideas of man and make applications to life situations. Additionally, outside readings

are required in an attempt to enrich the students' awareness of the world of literature.

101 BASIC ENGLISH (10)

CREDIT = 1

This course attempts to help the student in all language skills areas - listening, speaking, reading, writing and study skills. It gives the student opportunities to work on the specific weaknesses and to succeed in a classroom situation. As the student gains confidence and skills in the Basic English program, the performance in other classes will also improve.

102 ACCELERATED ENGLISH (10)

CREDIT = 1

This course progresses at an accelerated pace and stresses skills and concepts in five major areas: grammar and mechanics, vocabulary, composition, speaking and listening comprehension, and literature. Emphasis on these areas varies in an attempt to meet the needs of the students who often have fairly diverse backgrounds and aptitudes in language arts. The study of grammar and mechanics is directed primarily at improving the quality of the students' oral and written communication. Vocabulary is developed for optimum performance in standardized testing and personal usage. Composition is mainly expository and persuasive, and frequently related to literature. Speaking and listening comprehension components introduce students to formalized speaking and listening and teach students to organize their ideas logically, support them, and present them in a unified and coherent form. The study of literature focuses on the form and allows the students to confront and discuss the universal problems and ideals of man and make applications to their life situations. Additionally, outside readings are required in an attempt to enrich the students' awareness of the world of literature. The amount of time and the degree of emphasis on these concepts and skills vary according to the needs of the students enrolled.

110 ENGLISH (11)

CREDIT = 1

This is a survey course in American Literature for the student who may or may not be attending college. Composition and discussion activities are used to develop student attitudes and ideas concerning his role in the American scene. Grammar and mechanics are reviewed, spelling and vocabulary are studied extensively, and reading skills and techniques are maintained and developed.

111 BASIC ENGLISH (11)

CREDIT = 1

This course is designed for the slow learner. Reading and grammar are stressed, though some of the complex concepts of grammar are omitted (verbal, subjunctive mood) in order to devote more time to fundamental concepts (spelling, letter writing, resumes). This course can be taken only through the recommendation of teacher.

112 ACCELERATED ENGLISH (11)

CREDIT = 1

This course is a continuation of Accelerated English 10, and the stress of concepts and

skills in literature, language, and composition is enlarged. Literature emphasis is on how universal concerns of man have been modified by the American culture. Semantics, with the emphasis on connotative and metaphoric language, is stressed in language work. In their compositions, students study research techniques, sensory and emotional responses and style to develop their reading and writing skills in clearly defined sequential steps. Grammar and mechanics are reviewed, but each student demonstrates his understanding of all areas of the language arts program by preparation of a comprehensive research paper as well as an oral defense of the paper on an American author.

120 ENGLISH (12)

CREDIT = 1

Regular English 12 stresses the basic skills of communication: spelling, vocabulary, mechanics and reading. As a result of this course, students should demonstrate a mastery of these language arts skills which will help them meet the standard speaking and writing demands for a career. In addition, students are taught to prepare a resume.

121 BASIC ENGLISH (12)

CREDIT = 1

The student in Basic English is usually handicapped by a serious deficiency in language skills. Because his language skills are poor, he has repeatedly met with failure in English as well as in other classes. This course attempts to help the student in all language skill areas: listening, speaking, reading, writing, and study skills. It gives him an opportunity to work on specific weaknesses and to succeed in a classroom situation. As the student gains confidence and skills in the Basic English program, his self-concept and his performance in other classes will also improve.

122 ACCELERATED ENGLISH (12)

CREDIT = 1

This course is the fourth in a series of English courses for college-bound students. The work of previous grades is continued and explored. Reading selections are primarily from British and world masterpieces, and students write compositions, book reviews, and research papers in conjunction with their literature studies. These assignments, integrating organizational and critical thinking skills, become more complex. Interpretation of literary works and critiques of selections are emphasized. Because the student is expected to present himself in the best possible manner, an essential purpose of this course is to enhance written and oral skills. Any student who wishes to continue his education successfully should seriously consider this class to aid in college performance because the development of independent study skills is encouraged.

125 AP ENGLISH (12)

CREDIT = 1

Advanced Placement English Language and Composition is a two semester college level course in reading, analyzing, and writing prose. Since the instructor of the AP English and Language course assumes that the student already has a command of standard English grammar, this course focuses on rhetoric, style, and the development of mature writing skills. It emphasizes expository, analytical, argumentative, and descriptive essays of 500 to 1,000 words, assignments which should aid a student to write

competently in all college courses.

The writing demands will include sufficient preparation to take the AP exam in English Language and Composition, which is given in May by the College Board. Successful performance on the exam may earn college credit for the course.

The AP Language course uses nonfiction, fiction, and poetry models from various periods of mostly British Literature to create an awareness of different syntax and diction levels and purposes. Consequently, the readings for class will range from Beowulf to modern authors and outside material. Group discussion, oral presentations, journal writing, portfolio, and the use of computer word processing skills will also be a part of this course.

149 ENGLISH SURVEY (9)

CREDIT = 1

This course is designed to improve the learning support student's basic vocabulary, to develop reading skills, and to practice writing skills. The student must meet guidelines set by the PA Dept. of Education.

150 ENGLISH SURVEY (10)

CREDIT = 1

Same as # 149

151 ENGLISH SURVEY (11)

CREDIT = 1

Same as #149

152 ENGLISH SURVEY (12)

CREDIT = 1

Same as #149

153 RESOURCE ENGLISH (9)

CREDIT = 1

Designed for the learning support student in need of remediation in language arts, this course will provide student lessons in the areas of spelling, vocabulary, writing and short story. A special emphasis is given to the area of written expression.

154 RESOURCE ENGLISH (10)

CREDIT = 1

This course is designed for the learning support student in need of improvement in basic vocabulary, developmental reading skills and sentence writing, (i.e. complete sentences and simple compositions). The student must meet guidelines set by the PA Dept. of Education.

155 RESOURCE ENGLISH (11)

CREDIT = 1

Same as #154.

156 RESOURCE ENGLISH (12)**CREDIT = 1**

Same as #154.

159 RESOURCE ROOM (9)**NO CREDIT**

By permission only.

FOREIGN LANGUAGE**170 SPANISH I (9-12)****CREDIT = 1**

PREREQUISITE: A strong background in English and Guidance Counselor recommendation.

Spanish, level one, serves as a foundation in the introduction to the language and culture of the Spanish speaking world. Four major areas of achievement are stressed: oral comprehension, oral proficiency, reading comprehension and written comprehension. Also included is the study of Spanish grammar and structure as they pertain to conversation and composition.

171 SPANISH II (10-12)**CREDIT = 1**

PREREQUISITE: Spanish I

Prior to enrollment, the student will be expected to have mastered the basic skills of level one in all areas and have completed a notebook with all level one material included. The second year course provides both major grammar and structure points in the language. Written themes, talks, conversation on topical subjects, readings in translation and culture units, specifically dealing with Latin America are also discussed.

172 SPANISH III (11, 12)**CREDIT = 1**

PREREQUISITE: C average in Spanish II.

The third year course provides enrichment on the cultural level of the Spanish language. Art, music, history and several literary pieces are discussed as well as some fine points of grammar. Much emphasis is placed on the spoken word and students are encouraged to speak only Spanish.

173 SPANISH IV (12)**CREDIT = 1**

PREREQUISITE: Spanish III

AP Spanish Language is intended for students who wish to develop their proficiency in all four language skills: listening, speaking, reading, and writing. Students who enroll are expected to have a basic knowledge of vocabulary and grammar, and should have attained a reasonable proficiency in listening comprehension, speaking, reading, and writing.

181 GERMAN I (9-12)**CREDIT = 1**

PREREQUISITE: A strong background in English and Guidance Counselor recommendation

Level 1 introduces the students to the language and culture of Germany. By the end of the year students should be able to function on a basic level in all four skill areas: reading, writing, listening and speaking. Communication is stressed and vocabulary is presented in topic areas such as food, clothing, free time activities and weather. Students should also be familiar with the geography of Germany and the lifestyle of the German people.

182 GERMAN II (10-12)**CREDIT = 1**

PREREQUISITE: German I

German II expands on the skills which students have mastered in German I. The second year of German continues to emphasize everyday communication skills, introducing a wider vocabulary and encouraging grammatical accuracy. Students continue to explore the geography and culture of German speaking Europe.

SOCIAL STUDIES

198 ACCELERATED CIVICS (9)**CREDIT= 1**

This course incorporates the same material as 199, but is adapted to the more accelerated student.

199 CIVICS (9)**CREDIT=1**

The Civics course is comprised of two basic study areas. First, it is the study of the individual's rights and responsibilities as an American citizen. Second, it is the study of American government; its institutions, offices, and democratic processes. The following general content areas will be considered: citizenship, the United States, political parties and interest groups, elections, local, state, and federal government, the three branches of the Federal Government, the American legal and economic systems, United States foreign policy, and current events. Special projects will be included in the following areas: opinion polls and surveys, the media, Pennsylvania history, public speaking techniques, and courtroom procedures. The course will also include presentations by various political and career related guest speakers.

200 WORLD CULTURES (10)**CREDIT=1**

World Cultures gives the student a chance to compare their culture to that of others around the world and throughout the ages. The comparison will be conducted through time and space. Emphasis will be placed on the rise of civilization, Europe in the Middle Ages as well as the Renaissance, the rise of the nation states, the reformation, the spread of Islam, and the study of eastern Europe. Multicultural topics and activities will be explored. Study will focus on the geography, history, government, culture and the arts, as well as on current events.

202 ACCELERATED WORLD CULTURES (10) CREDIT=1

This academically challenging course is for students who have a high achievement and interest level in social studies. In addition to the description for 200 World Cultures, the students will have an additional emphasis placed on higher level thinking and application activities.

204 ACCELERATED AMERICAN STUDIES (11) CREDIT=1

This course will be structured primarily for students of high academic ability who have demonstrated a high level of achievement in social studies. The content will be similar to the regular course offering, but more will be expected academically of the student. Methods will differ - more readings, research papers, essay tests, and a lecture and discussion, content will be U.S. History 1865 to present.

205 AMERICAN STUDIES (11) CREDIT=1

The course is designed to cover primarily twentieth century United States history and draws background material from the late nineteenth century. The content of the course will be covered in the combination topical approach with chronological development of each topic. Topics will be chosen and revised to keep them pertinent to historical situations and the students' interests. Some of the basic topics to be covered will be: politics-minority group history, economic development-the ups and downs, and the social development of the time. An introductory unit dealing with the historical methods as a discipline will also be used.

207 ADVANCED PLACEMENT UNITED STATES HISTORY (11, 12) CREDIT=1

The course is designed to be the equivalent of a freshman college course, and can provide an opportunity for students to earn college credit. The two-semester course surveys American history from the time of European discovery and exploration to the present. Reading, writing, and historical research are the key components of this course. Students will need to allot significantly more time to these tasks than would be required in other history courses. The class meets five times a week. Basic class format is lecture/discussion and includes, in each unit, special activities such as debates, persuasive speeches and other oral presentations, simulated court proceedings, and the creation of various written documents. These activities will require the students to research and understand the historical positions they purport to represent. Opportunities will be available for creative use of audio and video in class presentations. A research project on a topic relating to local history to the national experience will be required. Since significant portions of the AP U.S. History exam include free-response and document-based essay questions, attention will be paid to development of student skills in organizing and writing timed essays.

208 ADVANCED PLACEMENT EUROPEAN HISTORY (11, 12) CREDIT=1

The AP course and examination in European History are intended for qualified students who wish to complete studies in secondary school equivalent to college introductory courses in European history. The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which we live. Without this knowledge, we would all lack the context for understanding the development of contemporary institutions, the role of conflict and continuity in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse.

In addition to providing a basic narrative of events and movements, the goals of the AP program in European History are to develop (a) an understanding of some of the principal themes in modern European history, (b) an ability to analyze historical evidence, and (c) an ability to analyze and to express historical understanding in writing.

209 ACCELERATED ISSUES & PROBLEMS OF MODERN SOCIETY (12) CREDIT=1

This course incorporates the same material as #210, but is adapted to the more accelerated student.

210 ISSUES AND PROBLEMS OF MODERN SOCIETY (12) CREDIT=1

Issues and Problems of a Modern Society attempts to give the 12th grade student an introduction to the various disciplines of the social sciences. This course will attempt to cover current history and events, sociology, personal adjustment, basic and consumer economics, government and law. All seniors must take this required class.

212 PSYCHOLOGY/LAW (12) CREDIT = 1

The “stress” in this course will be on psychology as a science and the methods used by psychologists. Subjects of psychology such as learning, personality, human development, intelligence, and behavior will be covered. The last part of the course will deal with the major mental illnesses and some suggestions for positive mental hygiene.

Criminal law and constitutional rights and responsibilities of the students will be stressed. An in-depth examination of the criminal justice system will be an integral part of this course. Resource personnel from the Greater Erie Community will be invited as speakers in their respective fields. A field trip to the Erie County Court House is an integral part of the last part of this course. The course is highly recommended for college bound students.

224 GEOGRAPHY/ECONOMICS (FIRST SEMESTER) CREDIT =.5

The Geo/Econ course is designed to incorporate two areas of study during one semester. The students will be given an opportunity to learn the basic economic principles gov-

erning American society. There will be a survey of the economic globalization, simple economics and consumerism.

The second half will consist of a hands-on study of geography. Students will be immersed in a survey of geography, map reading, topography, and geographic landforms. In addition, there will be a focus on North American nations, capitals, provinces, and states. An overview of world nations will follow.

225 ART HISTORY (SECOND SEMESTER) CREDIT = .5

Within the course, an overview of art, architecture, history, literature, music and philosophy is explored. Emphasis is placed on our cultural roots beginning with the Dawn of Culture and working towards the contemporary. An emphasis will be placed on specific cultures and civilizations; Egypton, Greek, Roman, Japanese, Chinese and Medieval European. These past civilizations and their attributes are important to learn and explore to gain a better understanding of the modern world.

226 ACADEMIC SPORTS LEAGUE (9-12) CREDIT = .5

The Academic Sports League class prepares students to compete in ASL by studying the Art, Music, Language and Literature, Math, Science, Economics and Social Science that are part of the United States Academic Decathlon. The topics in each of those areas change from year to year. Students also develop skills in speech, interview, and essay writing. At ASL meets, students compete against others at their grade point level, "A" students against "A" students, "B" students against "B" students and "C" students against "C" students.

242 SOCIAL STUDIES SURVEY (9) CREDIT=1

This course is designed to teach the learning support student basic social studies. Map reading skills, basic map making, and local geography are covered. Students must meet guidelines set up by the PA Department of Education.

243 SOCIAL STUDIES SURVEY (10) CREDIT=1

244 SOCIAL STUDIES SURVEY (11) CREDIT=1

245 SOCIAL STUDIES SURVEY (12) CREDIT=1

Same as #242

SCIENCE

298 PHYSICAL SCIENCE (9) CREDIT=1

Physical Science is an introductory to Chemistry and Physics class. Students will learn how to measure in metric, the structure of matter, use of the Periodic Table, and chemical reactions during the chemistry portion. In Physics, students will study the Laws of Motion and the 5 forms of energy.

297 ACCELERATED PHYSICAL SCIENCE (9) CREDIT = 1

PREREQUISITE: Teacher Recommendation

This course consists of individual and group investigations of basic chemistry and physics. Emphasis will be placed on a more independent and analytical approach to problem solving. Through a laboratory based curriculum students will study atomic structure, elements, mixture and compounds. An in-depth study of energy will also be covered, as well as motion.

300 BIOLOGY (10)**CREDIT = 1**

The focus of this course will be to understand the nature of life. The ability of life to evolve and adapt, these changes, the organisms, the life processes and the things that affect them will be studied as a part of the nature of life.

301 FUNDAMENTALS OF PHYSICAL SCIENCE**CREDIT = 1**

PREREQUISITE: Teacher recommendation only.

This course will survey the field of physical science. We will study the basics of physics and chemistry. Current events in the sciences and connections to everyday life will be examined.

302 FUNDAMENTALS OF BIOLOGY**CREDIT = 1**

PREREQUISITE: Teacher Recommendation Only

This course will survey the field of Biology. We will study life, with the emphasis on organisms and the things that affect them. Current events in the sciences and connections to everyday life will be examined.

303 ACCELERATED BIOLOGY I (10)**CREDIT = 1**

A range and depth of topics aim to provide students with conceptual framework, factual knowledge, and the analytical skills necessary to deal critically with the rapidly changing science of Biology. Outside activities, readings, laboratory work, reports and other activities will be used to enhance these skills.

306 BIOLOGY II (12)**CREDIT = 1**

PREREQUISITE: Must have "C" average or better in Biology I and Chemistry I

After successfully completing Biology and Chemistry, students will study entomology, physiology, anatomy, microbes, botany and other areas of biology. Students will be responsible for an individual project and a paper along with readings, labs, collections and papers on class activities.

310 CHEMISTRY I (11)**CREDIT = 1**

This is an introductory course in Chemistry designed to prepare students for college. Students will study the structure and composition of matter. This course is designed primarily for academic students.

312 CHEMISTRY II (12)**CREDIT = 1**

PREREQUISITE: Must have had Chemistry I

This is a second-year course in Chemistry. This course will be a continuation of the first year course in Chemistry as well as an introduction to Organic Chemistry. The course is designed around the individual student and is heavily laboratory oriented.

322 PHYSICS (11, 12)**CREDIT = 1**

PREREQUISITE: Chemistry 1 or Chemistry 1 concurrent with Physics.

The Physics course includes topics in mechanics, electricity and magnetism. Knowledge of Algebra and basic Trigonometry is required for the course; the basic ideas of Calculus will be introduced and their applications will be a major goal of the course. Lab work will be assigned periodically to re-enforce topics learned in class.

326 MODERN CONSUMER SCIENCE (11, 12) CREDIT = 1

Modern Consumer Science is a course designed to offer all general curriculum students an opportunity to experience science as it applies to everyday life. Basic concepts from Physical Science and Biology are extended as students investigate topics including: water pollution, radiation and nuclear energy, consumer product testing and evaluation, and dangerous food microbes. Emphasis is placed on discovering, how science and technology dramatically affect the way we live, and the importance of science literacy.

MATHEMATICS

401 APPLIED PRE-ALGEBRA**CREDIT = 1**

The course uses real-life and workplace situations to teach students the foundations of algebra and geometry. This approach teaches abstract concepts through concrete experiences. Mathematics becomes a vital part of students' lives as they discover how it relates to sports and recreation, consumer affairs, personal finance, the workplace, science, and citizenship. The course materials engage students in cooperative teams, allowing them to experience and apply concepts, making math both practical and relevant.

- 403 MATH SKILLS AND CONCEPTS (10)**
404 MATH SKILLS AND CONCEPTS (11)
405 MATH SKILLS AND CONCEPTS (12)
CREDIT = 1

The course content includes vocabulary, symbols and theorems of mathematics, operations with real numbers and polynomials, rational expressions, solving and graphing linear equations and inequalities, solving systems of linear equations, elementary statistics and applying these skills to application problems.

406 PRE-ALGEBRA CREDIT = 1

This course reinforces the concepts of fractions, decimals, and percents as well as rational numbers, exponentiation and operations with signed numbers and solving simple linear equations. This book provides a strong foundation for students to succeed in Algebra. Students who complete this book should be excellent problem solvers.

407 ALGEBRA I CREDIT = 1

This is the foundation course for the entire academic mathematics program. Emphasis is placed upon the basic structure of Algebra in the real number system. The course content includes vocabulary, symbols and theorems of mathematics, operations with real numbers and polynomials, rational expressions, solving and graphing linear equations and inequalities, solving systems of linear equations, elementary statistics and applying these skills to application problems.

409 GEOMETRY CREDIT = 1

This course provides an in-depth coverage of Euclidean proofs and analytic geometry. Conditional statements, similarities of geometric figures, as well as translations, rotations and reflections and dilations are covered in great depth.

410 ALGEBRA II CREDIT = 1

This course is designed to reinforce and expand on the skills learned in Algebra I. Topics included in this course are factoring, operations of polynomials, graphing linear and quadratic equations, systems of linear equations, radicals, logarithms, and complex numbers. Emphasis is placed on the application of algebraic skills learned in the solution of word problems. The advanced skills of algebra are also applied to geometric shapes.

411 TRIGONOMETRY/PRE-CALCULUS (11, 12) CREDIT = 1
PREREQUISITE: Geometry and Algebra II

This course contains an intensive review of topics from Algebra, Trigonometry, and Analytic Geometry that are necessary for success in calculus. Students will learn the concepts of limits, continuity, the derivative, differentiability, integration, and other related topics.

412 AP CALCULUS (11, 12)**CREDIT= 1****PREREQUISITE:** Trigonometry/Pre-Calculus

This is an intense course that continues the study of limits, continuity, differentiability, analyzing graphs, and other related topics. Besides homework and tests, students will be required to do sample questions to prepare for the AP exam.

413 MATH 11**CREDIT= 1**

Math 11 is a course that focuses on combining topics from Algebra I, Algebra II and Geometry. The emphasis is on the vocabulary and symbols of mathematics as well as analytical reasoning. Geometric figures are analyzed with the aid of algebra skills. Basic principals of probability and statistics are reinforced. It is intended for both the college bound student as well as a student that feels applying Algebra and Geometry concepts will benefit their post secondary preparation no matter the direction they choose.

414 STATISTICS**CREDIT= 1**

Statistical tests are commonly used in quantitative research. The purpose of this course is to provide a brief introduction to statistics, with an emphasis on statistics used in the sciences. Descriptive statistics, probability and inferential statistics are examined. Students are expected to have strong algebra skills and have completed Pre-Calculus.

415 MATH SURVEY (9)**CREDIT= 1**

This course is designed for the learning support student who needs improvement in the areas of arithmetic, computation, (i.e., addition, subtraction, multiplication, division, fractions, and decimals). The student must meet the guidelines set by the PA Department of Education.

416 MATH SURVEY (10)**CREDIT= 1**

This course is designed for the learning support student who needs improvement in the areas of arithmetic computation, (i.e., addition, subtraction, multiplication, division, fractions, and decimals). The student must meet the guidelines set by the PA Department of Education.

417 MATH SURVEY (11)**CREDIT= 1**

This course will further develop the skills learned in Math Survey 10 with concentration in the areas of arithmetic reasoning (time, budget and measurement). Students must meet guidelines set by the Pennsylvania Department of Education.

418 MATH SURVEY (12)**CREDIT= 1**

This course blends the teaching of Math Survey 10 and 11 and shows its practical application in the modern world. Emphasis will be on consumer buying, credit, banking,

and budgeting. Students must meet guidelines set by the Pennsylvania Department of Education.

419 RESOURCE MATH (9)

CREDIT= 1

Resource Math 9 is a course taught at the math level of the learning support student. Addition, subtraction, multiplication, and division of whole numbers, fractions and decimal numbers may be covered. Practical use of measurement and strategies for the solving of word problems are included in this course.

420 RESOURCE MATH (10)

CREDIT= 1

This course is designed for the learning support student to encompass the areas of arithmetic computation, (i.e. addition, subtraction, multiplication, division, fractions, decimals), and an introduction to units dealing with “survival” math skills (i.e. skills for everyday living and working). Students must meet guidelines set by the Pennsylvania Department of Education.

421 RESOURCE MATH (11)

CREDIT= 1

This course is designed for the learning support student to review competencies gained in Resource Math I as well as further develop “survival” math skills units introduced in Resource Math II. Units include banking, budgeting and consumer buying. Students must meet guidelines set by the Pennsylvania Department of Education

422 RESOURCE MATH (12)

CREDIT=1

The goals of this learning support course are twofold. Initially, skills and competencies reached in Resource Math I and II will be reviewed. The second semester will strictly be devoted to banking, budgeting, wages.

BUSINESS AND INFORMATION TECHNOLOGY

430 MAC COMPUTER APPLICATIONS (10, 11, 12)

CREDIT=1

This course is an introduction to the practical use of a computer. A Macintosh computer is used. The student will be introduced to word-processing, spreadsheets, database management, computer graphics, slide show presentations, and web page design. The student will learn these topics using various software packages. The student will also learn to use peripheral equipment such as scanners, digital cameras and printers. The class will consist of sample work and application projects. The student must possess the traits of self-motivation, excellent attendance, responsibility, and typing skills. Students must have the ability to follow a job through to its completion and be eager to learn. This class is the prerequisite for Desktop Publishing.

431 WORD/EXCEL APPLICATIONS (FIRST SEMESTER) CREDIT = .5

This computer course is based on the Microsoft Office programs of Word and Excel. Students will be exposed to basic to advanced functions of both computer programs throughout the course via hands-on learning experiences textbooks coverage. Students desiring to take this course should be self-motivated due to the project oriented nature of the course.

432 ACCESS/PPT APPLICATIONS (SECOND SEMESTER) CREDIT= .5

Microsoft Office programs of PowerPoint, Publisher and Access will be used in this project oriented course to expose students to the basic and advanced functions of the three applications. Students desiring to do that, this course should be self-motivated as much of the work will be hands-on application.

434 COMPUTER PROGRAMMING I CREDIT = 1

PREREQUISITE: "C" Average in Algebra I

This is an introductory computer science course. Major topics include computer hardware and architecture, the programming environment, algorithms and logic, and programming in a BASIC language. This course will prepare students for a second year course in a more difficult programming language.

435 COMPUTER PROGRAMMING II CREDIT= 1

PREREQUISITE: Successful completion of Computer Programming I and teacher recommendation

This is an advanced computer science course using the C++ programming language and a powerful integrated development environment. Students who successfully complete this course will be prepared for the Advanced Placement A examination in computer science.

480 NETWORK MANAGEMENT AND PC MAINTENANCE LEVEL I CREDIT= 1

Students will build, maintain and troubleshoot windows based personal computers. Additionally, students will learn to operate a Windows based computer network. Class participation will be responsible for routine maintenance and operations of the school districts' Wide Area Network. This course is offered every other year.

481 NETWORK MANAGEMENT AND PC MAINTENANCE LEVEL II CREDIT= 1

PREREQUISITE: Level I Networking Management

Students will build, maintain and troubleshoot windows based personal computers. Additionally, students will learn to operate a Windows based computer network. Class participation will be responsible for routine maintenance and operations of the school

districts' Wide Area Network. This course is a follow up to Level I. It is offered every other year.

495 MULTIMEDIA AND INTERNET APPLICATIONS (11, 12)

CREDIT=1

PREREQUISITE: Teacher recommendation and/or Desktop Publishing

Using a variety of software, the student will create presentations and projects on various topics. Software will include: word processing, drawing, digital software for pictures, movie software, the internet, and other state-of-the-art tools. Hardware includes digital camera/ video camera, scanner, CD/DVD burner, server. Students will be working in a "project oriented" atmosphere and will have to be self-motivated. The course will culminate in a large personal project and a large group project.

499 DESKTOP PUBLISHING (11, 12) CREDIT = 1

PREREQUISITE: MAC Computer Applications and/or teacher recommendation

Desktop Publishing involves a complex organization of computer hardware and software tools that enable a student to design and produce professional quality documents. Adobe Photoshop, Adobe InDesign and Adobe Illustrator and the main software programs that are utilized. Excellent computer application skills are a must. Students will be working in a "project oriented" atmosphere and will have to be self-motivated. Actual applications will be class projects, extra-curricular activities, etc.

500 INTRODUCTION TO COMPUTER APPLICATIONS

(REQUIRED) (9)

CREDIT = .5

This course is designed to equip students with practical use of the computer. IBM computers are used. Students will learn to keyboard efficiently and accurately using the touch-typing system. The students will acquire basic word processing, spreadsheet, and multi-media presentation skills using Microsoft Word, Excel and PowerPoint. Study skills will be integrated throughout the school year. Successful completion of this course is a Northwestern graduation requirement. (Semester Course)

505 BUSINESS CONCEPTS (9-12)

CREDIT = 1

This course is designed to give students a look into the business world as well as information concerning job opportunities. Students will have an opportunity to study the American economic system and the four basic forms of business. In addition, students will be given the opportunity to see how business directly affects their everyday lives by studying such topics as banking/checking accounts, credit and savings accounts, the roll of consumers in our economy, knowledge of consumer publications, and information on buying a car and a home. Incorporated throughout the course are opportunities to discuss or become aware of a variety of careers.

508 BUSINESS MATHEMATICS (10-12) CREDIT = 1

This course is designed to develop competency in mathematics for personal and business use. A basic review of addition, subtraction, multiplication, division, fractions and decimals precedes the application of these related skills to applicable real-life situations, i.e., family budgeting, small business operation, consumer buying, home ownership, travel and transportation, wages/salaries/commissions, borrowing/saving/investing, taxes, retailing/wholesaling, etc.

510 KEYBOARDING I (10-12) CREDIT = 1

Students will use Microsoft Office to learn the proper keyboarding techniques correctly format correspondence for personal use, college assignments, and business applications, memorandums, personal and business letters, statistical tables, simple spreadsheets, and reports/ term papers. At least two keyboarding packets will be completed independently during the second semester.

515 KEYBOARDING II (10-12) CREDIT = 1

PREREQUISITE: Keyboarding I

This course is for the student who has completed Keyboarding I and wishes to further develop and advance his/her keyboarding skills. Refinement in the production of letters, tables, and other business forms will be emphasized. Students who elect this course should be able to work independently with very little teacher direction as well as meet deadlines. At least two advanced keyboarding packets will be completed independently during the year. Students will also spend three weeks using the dictaphone and three weeks using the electronic calculator.

520 ACCOUNTING I (9*-12) CREDIT = 1

Basic principles of accounting are presented in this course. The student studies the double-entry system of accounting and learns to complete the accounting cycle for service and merchandising businesses organized as proprietorships and corporations. This course is recommended for students seeking employment in the business world as well as those who may be seeking college or business school training in any number of business related majors, i.e., business administration, marketing, management, finance.

*With teacher approval

525 ACCOUNTING II (10-12) CREDIT= 1

PREREQUISITE: Accounting I

This course increases the competency of a student to deal with advanced accounting problems. A thorough review of the fundamentals is presented before the advanced work is started. Computerized accounting using Peachtree software is incorporated during the second semester. This course prepares a student for entry-level positions in the accounting field.

527 ENTREPRENEURSHIP (11-12)**CREDIT = 1****PREREQUISITE:** Business Concepts

This course is the application of classroom theory to the actual operation of the school's student store, Cats-R-Us. Students will assume full responsibility for the entire operation of the store- advertising and promotions, bookkeeping, visual merchandising, inventory, purchasing, scheduling, and selling.

529 PERSONAL FINANCE/MARKETING**CREDIT= 1**

Personal Finance is designed to prepare high school students to make wise financial decisions in personal situations. Throughout the course students will cover topics including: financial planning, money management, consumer purchasing, banking and credit, consumer credit, saving and investing, stocks, bonds, and mutual funds, tax strategies, insurance and retirement planning.

E-marketing, marketing ethics and international and cross-curricular marketing are just some of the topics that will be covered as students are exposed to the world of marketing. Other topics covered will include promotion, distribution, pricing, selling, product and service management, and employability and career development as a semester is spent exploring the basics of marketing.

530 OFFICE TECHNOLOGY (11-12)**CREDIT = 1****PREREQUISITE:** Keyboarding II or teacher recommendation

This course is designed to provide instruction and applications parallel to the current responsibilities of administrative assistants in office environments. It includes the operation of business machines including electronic calculators, cash registers, transcription units, fax machines, copiers and the like. Advanced computer applications and filing will be incorporated through the use of simulation practice sets. Upon the successful completion of this course the student will be prepared to apply for entry level positions in a business office.

532 LIFETIME CAREER SKILLS**CREDIT = 1**

Throughout this course, the focus will be on helping students to develop fundamental skills employers require for a well-trained work force. Students will go beyond simple career advice and preparation and will be introduced to the entire work and life cycle. Key issues covered will include preparing for work, working on the job, career planning, success skills, managing your money and independent living.

ENGINEERING, MANUFACTURING, AND INDUSTRIAL TECHNOLOGY

600 INTRO TO TECHNOLOGY EDUCATION CREDIT = 1

The student will explore all areas of manufacturing and construction systems (forest technology, metal working technology, plastics, welding, and materials testing), in hopes of being better able to select an area for deeper research. This is a prerequisite for all other Tech Ed. courses.

Communications systems introduces the student to many areas of technical drafting including lettering, sketching, blueprint reading, single view drawings, orthographed drafting and design (CAD), basic architectural floor plans, and blueprint making. Neatness, accuracy, and good work habits are stressed.

Power covers magnetism, internal combustion engines, electrical principles, gears, hydraulics, pneumatics, and how they relate to each other in power applications. A text and laboratory experiment form the medium of teaching the concepts. If the required sections are finished early, the student can specialize in any of the areas covered for the remainder of the course. The power sequence should be taken by those students interested in mechanics or electricity.

MANUFACTURING AND CONSTRUCTION SYSTEMS

601-602 INDUSTRIAL MATERIALS I/II CREDIT = .5 each

Students will focus on developing skills used to enhance their woodworking skills. Industrial Materials I will develop skills through teacher assigned projects while second level students will choose his/her own individual project. This project will reflect the student's skill level and work ethic. Students will be responsible for refunding the school for materials and hardware used. All projects will focus on quality and craftsmanship.

603 CABINET/FURNITURE MAKING CREDIT = .5 each

Upon successful completion of Industrial Materials I students may enroll in this challenging real world application course. Technological advancements now allow companies to produce quality products at affordable prices. Students will focus on these advancements and apply them to real-world product solutions. Students will seek to advance their skills, become better decision makers and have higher levels of responsibility.

604-605 MANUFACTURING I/II CREDIT = .5 each

Upon successful completion of Intro to Technology you will now enter the world of manufacturing. In Manufacturing I the students will focus on producing a toy for the Toys-for-Cats program. Manufacturing II will focus on the creation of a larger piece of furniture to produce and sell, with all proceeds benefiting the students. Students will gain insight into the world of manufacturing through real world application. Students

will be responsible for research and design, planning the production run, quality control, material selection and ordering, jigs and fixtures, finishing, and job descriptions.

606 BASIC CONSTRUCTION

CREDIT = .5

Students will get hands-on training in the area of construction and home repair. Students will be introduced to and complete basic work in plumbing, wiring, drywall installation and finishing, framing and concrete. These skills will be developed further through the production of a storage shed or children's playhouse. As part of the course, the students will be hired to work in various positions within a construction company and be responsible for a certain phase of construction.

607 COMPUTER INTEGRATED MANUFACTURING CREDIT = .5

The quality level of manufactured products can be increased through the use of computer-aided equipment. Students will focus on two pieces of equipment, the CNC router and the laser engraver, that are used in the manufacturing world today. Students will use these tools to design and produce various products. In addition, students will develop their skills in Corel Draw and EnRoute 3 programs.

608 WILDCAT VENTURES THROUGH C.A.T. TRAINING CREDIT = 1

This course will help "put it all together". Students will study various technical careers, experience co-operative learning within a work environment, develop good work habits, and build a strong foundation in various technical areas which will enable them to become on-the-job problem solvers and adaptable to an ever-changing technological society.

Through work experience, the mission of this course is to help students develop the necessary skills, attitudes and abilities necessary to be successful in the workplace. Students will form a company to manufacture products ordered from customers. After receiving job descriptions for positions available, students will decide which job(s) they wish to interview for. The owners of the company (C.A.T. Teachers) will then hire the best candidate for each position. The students will design, produce and distribute their product. Students will change jobs periodically throughout the manufacturing of products to enable them to receive a well-rounded experience. When students are hired, they will treat the experience just as if they were working in an actual job. Attendance, Work Ethic, Attitude, and Proper Dress will be stressed.

POWER SYSTEMS

610-611 TRANSPORTATION DESIGN I/II

CREDIT = .5 each

In Transportation Design I, the students will briefly cover the four modes of transportation (land, sea, air, space). This includes all the variables that are included within the transportation taxonomy.

In Transportation Design II the students will choose one or more of the four modes of transportation and explore it in an in depth manner. The students will develop and create projects in their selected mode of transportation.

612-613 4-STROKE TECHNOLOGIES I/II

CREDIT = .5 each

In 4-Stroke Technoplogy I the students will be instructed in safety and in a basic knowledge of the 4-stroke engine cycle. In addition, students will perform routine maintenance on small 4-stroke engines.

In 4-Stroke Technology II the students will apply the knowledge gained in 4-Stroke Technologies I to completely disassemble and rebuild a small 4-stroke engine. The students will also be required to debug a small 4-stroke engine.

615 RESEARCH AND DESIGN

CREDIT = .5

The students will use their knowledge of science, mathematics, and appropriate experience to find suitable solutions to a problem. They will attempt to predict how well their designs will perform to their specifications prior to full-scale production. They use, among other things: prototypes, scale models, simulations, destructive tests, non-destructive tests aand stress tests.

616-617 WELDING TECHNOLOGY I/II

CREDIT = .5 each

The student will receive safety instruction and gain a basic knowledge of arc, mig and oxy-acetylene welding along with oxy-acetylene and plasma cutting. The students will apply their knowledge through the completion of small experience projects and more advance projects in Welding Technology II.

COMMUNICATION SYSTEMS

620 GRAPHIC DESIGN

CREDIT = .5

An introductory course in the field of Graphic Communications. Students will learn the basics of graphics, which will include basic tools and programs that are used throughout the world. Students will also research job opportunities available in the field of graphic communications.

621 DIGITAL MEDIA

CREDIT = .5

Students will learn about digital media, including the history of digital media, present technology and future projections. This class will teach the proper use of programs used for digital imaging, as well as the use of video cameras and other digital media players.

623 MECHANICAL DRAWING

CREDIT = .5

The students will briefly cover all the tools, techniques, and procedures for creating a mechanical drawing. Mechanical drawing consists of using tools to create working drawings that can be used for manufacturing parts and showing the operations of material processing. These drawings are used in all technological fields, which would include manufacturing, construction, transportation, communication, engineering, etc.

624-625 CAD I/II

CREDIT = .5 each

PREREQUISITE: Mechanical Drawing I or teacher recommendation

In CAD I the students will be introduced to Computer Aided Drafting which gives the students the ability to understand the processes involved in creating products or manufacturing parts. This class is the next step after Mechanical Drawing I. Students will learn how to transfer mechanical drawings to computer-aided drawings by using AutoCAD. This class will teach the fundamentals and basics of AutoCAD.

CAD II is an advanced course for those students who have completed CAD I. In this course, students will learn more in-depth knowledge of AutoCAD and its capabilities, which include threads, fasteners, solid modeling, etc.

626-627 ARCHITECTURE I/II CREDIT = .5 each

In Architecture I the students will learn the basics of construction and layout, including key concepts that can be used when finding a solution to a building problem. They will learn how to correctly use AutoCAD to create floor plans and elevations for buildings and houses, as well as learn the parts and correct procedures used in construction.

In Architecture II the students will use the knowledge that they have previously learned in Architecture I to design, draw, and construct a model house. They will first use their knowledge of mechanical drawing to draw the elevations and floor plans for their house in either a 1/4 or 1/2 architectural scales. Once the mechanical drawings are finished, the students will transfer their drawings to CAD using architectural settings. When all drawings are finished, the students will begin constructing their scale model house using the architectural drawings they have created.

ENVIROMENTAL AND RESOURCE MANAGEMENT (AGRICULTURE)

646 AGRISCIENCE APPLICATIONS

CREDIT = 1

This course focuses on integrating biological/physical sciences with technology as related to the environment, natural resources, food production, science and agribusiness. Topics of instruction include agricultural awareness and literacy, leadership and FFA, employability skills and introduction to all aspects of the total agricultural industry. Skills in biology, language, writing, computers, mathematics, and physics are reinforced in this course. Work-based learning strategies appropriate for this course are

field trips, shadowing, agriscience projects, and supervised agricultural experiences. (Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.)

651 HORTICULTURE I

CREDIT = 1

This course provides instruction on the broad field of horticulture with emphasis on the scientific and technical knowledge for a career in horticulture. Topics in this course include plant growth and development, plant nutrition, media selection, basic plant identification, pest management, chemical disposal, customer relations, career opportunities, and leadership development. Skills in Biology, Chemistry, and Algebra are reinforced in this course. Work-based learning strategies appropriate for this course are agriscience projects, internships, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies. Students will have the opportunity to take the private applicators section of the PA State Pesticide Certification Exam for possible certification.

652 HORTICULTURE II - LANDSCAPE CONSTRUCTION CREDIT = 1

This course provides hands-on instruction and emphasizes safety skills needed by landscape technicians in the field. This course is based on the Pennsylvania Landscape Contractor's Association skill standards for a Certified Landscape Technician. Students are instructed in interpreting landscape designs, identifying landscape plants, and planting/maintaining trees, shrubs and turf. Landscape construction is emphasized in the areas of grading and drainage, irrigation, paver installation and the use/maintenance of landscape equipment. Current topic discussions provide students an understanding of careers and the employability skills needed to enter the landscape industry. Students will have the opportunity to take the CLT test and possibly receive certification. FFA and SAE are also an integral part of this class.

647 AGRICULTURE ANIMAL SCIENCE CREDIT = 1

This course focuses on the basic scientific principles and processes that are involved in animal physiology, breeding, nutrition, and care in preparation for an animal science career major. Topics include animal diseases, introduction to animal science, animal nutrition, animal science issues, career opportunities, and animal evaluation. Skills in Biology, Chemistry, and Algebra are reinforced in this course. Workbased learning strategies appropriate for this course are agriscience projects, internships, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies. Students will be required to complete an animal project for class.

648 SMALL ANIMAL SCIENCE CREDIT = 1

This course provides instruction on animal husbandry topics related to small animals that are served by a veterinarian. Content related to the breeding, grooming, care and marketing of animals that fit into this category will be covered through this course. Opportunities for students to gain hands-on experience will be included in the course and reinforced through work-based learning and leadership experiences. FFA and SAE are also an integral part of this class.

649 ENVIRONMENTAL & NATURAL RESOURCES CREDIT = 1

This course provides an introduction to environmental studies, which includes topics of instruction in renewable and non-renewable natural resources, history of the environment, personal development, water and air quality, waste management, land use regulations, soils, meteorology, fisheries, forestry, and wildlife habitat. Skills in Biology and Algebra are reinforced in this class. Work-based learning strategies appropriate for this course are agriscience projects, field trips, shadowing, and supervised agricultural experiences. Supervised agricultural experience programs and FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.

650 BIOTECHNOLOGY & AGRISCIENCE RESEARCH CREDIT = 1

This course provides instruction in laboratory and safety skills needed by agricultural research scientists. Current applications of biotechnology in animal science, environmental science, food science and plant science are emphasized. Basic concepts of genetics and microbiology are applied to the agriculture industry and its success in providing food and fiber for the world. Opportunities exist for students to conduct individual or team research experiments. Hands-on laboratories and current topic discussions provide students an understanding of careers in agriscience research. FFA and SAE are also an integral part of this class. Students are required to complete a Research SAE book and compete in Ag Science Fair.

653 - 655 AG LEADERSHIP I, II, III CREDIT = 1

This course is available to FFA officers and committee chairs. The course consists of conducting daily FFA business, produce program of activities for FFA Chapter, and design and update Albion FFA website as well as web sites for current classes in Ag Education. Students will be required to organize and submit a budget for the year, POA, monthly agendas and meeting skits. Students will study leadership, parliamentary procedure, business planning, accounting, and Ag politics.

656 - 659 AG SAE I, II, III, IV CREDIT = 1

This is the Supervised Agriculture Education (SAE) Record Book class. Must use Pennsylvania's current approved SAE books for current Ag project. And must complete a minimum of 180 total hours in projects for credit. Letter grade is based on documenta-

tion, completeness and accuracy of total SAE Projects. Course is graded as Pass/Fail.

660 AGRICULTURAL ADVANCED STUDIES (12) CREDIT = 1

This is a three-phased exit course for a senior that is career focused in agricultural education. The three components of the program include a research paper, a product, and a presentation. Students demonstrate their ability to use content and apply knowledge to real-world situations in a career major. In addition, they will also demonstrate their ability to write, speak, problem-solve, and use life skills such as time management, planning, follow-through, and organization. Students work under the guidance of a teacher-facilitator in collaboration with community members, business representatives and other school-based personnel.

FAMILY AND CONSUMER SCIENCES

660 BASIC FOODS (9-12) CREDIT = 1

The Basic Foods course will cover basic nutrition, meal planning and special diets. Also, the majority of the course work will be spent in food preparation units which would include: breads, pastries, cookies, cakes, pastas, soups, meats, candy, salads, fruits and vegetables. The classwork includes theory as well as lab work in the kitchens. This course is a prerequisite for Advanced Foods.

662 ADVANCED FOODS (10-12) CREDIT = 1

PREREQUISITE: "C" or better in Basic Foods or teacher recommendation

The Advanced Foods course will cover review of basic kitchen safety, lab procedures, and nutrition with special emphasis given in this course to planning and preparing Ethnic/International dishes. This course will also cover consumer and career skills in food preparation and budgeting in the food preparation industry.

670 CHILD DEVELOPMENT (10-12) CREDIT = 1

The Child Development course will cover information concerning the parenting decision, parenting skills, family planning, childbirth, and the development of a child from birth to age five. The second semester of the year will cover careers in child development and child care field, discipline techniques, activities for teaching preschoolers, and the eight to nine week preschool lab. The preschool lab allows high school child development students to teach and learn from 3-5 year olds in a preschool setting for two days/week. This course leads to employment in the child care field.

680 CHILD DEVELOPMENT PRACTICUM (2 PERIODS) CREDIT = 2

PREREQUISITE: Child Development

This course is open to juniors and seniors. It will be offered at Northwestern Elementary School, two periods per day and will be worth two credits. Students requesting this course in their junior year must have completed the Child Development course with

a final grade of “B” or better and the application process. Students in the senior high requesting this course must also seek approval from the high school teacher supervising the course. Candidates for acceptance into this course should have the following characteristics: good school attendance record, future interest in career working with children, and willingness to complete many varied activities requested by cooperating elementary teacher. Requirements include: assisting elementary teacher in anyway requested by the teacher, and weekly written journal of weeks activities at elementary and attendance report. The number of student aides that can be placed is limited to the number of elementary teachers requesting a student aide. This course can lead to employment in the child care field.

ARTS AND HUMANITIES

700 CONCERT BAND (9-12)

CREDIT = 1

The Concert Band is open to all students with an instrumental music background in grades nine through twelve. Students sharpen their skills and rehearse for the performance of two or three evening concerts.

702 20TH CENTURY MUSIC & BEYOND (FIRST SEMESTER)

CREDIT = .5

This course will provide a historic background in music, dealing with each of the decades of the 1900’s up to the present. Emphasis will be placed on listening examples and trendsetting artists of the popular music genre. All types of music will be discussed and experienced throughout this time frames.

703 MUSIC CAREERS (SECOND SEMESTER)

CREDIT = .5

If you like music and want to explore your options, this course will allow you to choose a field of study. There will be lots of guests sharing their expertise as performers, marketers, technicians, composers, inventors, craftsmen and music teachers.

706 CHORUS (9-12)

CREDIT = 1

Chorus is designed to provide enjoyment through participation in singing of materials selected mainly from popular shows, religious, spiritual, and traditional music. Emphasis is also placed on acquiring knowledge about the working of the human voice and how to better use and improve the singer’s own voice. Chorus seeks to involve as much of the student population as possible.

710 ART I / ARTS & CRAFTS

CREDIT = 1

This class offers a combination of Art I lessons and art & crafts. Students would benefit and experience drawing, painting, art history, ceramics, printmaking, paper mache, etc.

711 ART II (10-12)**CREDIT = 1****PREREQUISITE:** Art I or teacher recommendation

This course offers more advanced classes in painting, drawing, graphics, design elements and principles, and some arts & crafts.

712 ART III (11, 12)**CREDIT = 1****PREREQUISITE:** Art II or teacher recommendation

Emphasis will be on drawing and painting (oil & watercolor), independent work, graphic design, art history, and arts & crafts.

713 ART IV (12)**CREDIT = 1****PREREQUISITE:** Art III or teacher recommendation

An advanced class for students who will create an art portfolio. Emphasis will be on detailed drawing, art history, oil and watercolor. Also included is a more in-depth study of certain areas of art.

716 CERAMICS I (10-12)**CREDIT = 1**

This course is designed for the student who is interested in working a full year with clay. The students will learn coil, slab, the potter's wheel, and sculpture.

This course carries a special project fee of \$15.

717 CERAMICS II**CREDIT = 1****PREREQUISITE:** Ceramics I

An advanced art class designed for students who have successfully completed Ceramics I. This course offers an indepth study of hand built and wheel created ceramic pieces. Students will gain a broader understanding of the creative process. Building on the principles of ceramics this course takes a problem solving approach and combines the history of ceramics with the hands on creations of ceramic pieces.

719 STUDIO ART / PAINTING**CREDIT = 1****PREREQUISITE:** Must have passed Art III with a "B" average.

This course emphasizes the field of drawing and painting. A sketchbook will be required. Portfolio work will be completed for the student interested in the field of painting. Art competitions will be expected. This course carries a special project fee of \$10.

PHYSICAL EDUCATION

	BOYS	GIRLS
9th grade	795	797
10th grade	800	801
11th grade	810	811
12th grade	820	821

Physical education is a required course for all students for graduation. Each student is required to dress in clothing appropriate for activity. An attempt is made to schedule students according to their appropriate grade levels. However, due to scheduling conflicts, some of the classes contain mixed grade levels.

Physical education classes will be devoted to teaching students how to do the various activities well enough to enjoy the participation. When this level of skill development has occurred, physical education classes will then be devoted to participation in the various activities rather than explanations, demonstrations, and practice. Hopefully, each student will find one or more of the activities that he/she will enjoy enough to pursue after graduation. Also, special emphasis is placed on the development and testing of health related fitness.

850 HEALTH (11) CREDIT = .5

Efforts are made by the Health faculty to teach the most current health information relevant to each student's needs in terms of personal, community, family, and consumer health and wellness.

Class activities include lectures, discussions, films, guest speakers, small-group work, tests, and quizzes. Delicate topics such as sexually transmitted diseases and teenage suicide are included in the course as well as fitness, nutrition, first aid, etc. The health faculty is willing to answer questions of students or parents concerning curriculum content and/or course objectives.

870 DRIVERS EDUCATION (10) CREDIT = .5

The purpose of the course in Drivers Education is to introduce students to the basic information needed to own, operate, and maintain a motor vehicle. The students are scheduled for this course in the tenth grade in hopes that they receive the information before they become licensed motorists. The course is also a prerequisite to the roadwork portion of Drivers Education. It is mandatory that in order to receive an insurance reduction and/or a senior license at age seventeen, each student must complete and pass 30 hours of classroom instruction and 6 hours of actual driving time. Information covered will be: physical and mental aspects of driving, licensing, insurance, buying new and used cars, alcohol, drugs, and driving, signs and roadway markings, emergencies, car systems and basic car maintenance. This will be carried out through lectures, discussions, demonstrations, small group work, practical assignments, and videos.

873 YEARBOOK (9-12) CREDIT = 1

(By Application Only - do not schedule until application process is completed.)

Students in this course design the Northwestern High School Yearbook, write necessary articles and captions, and take photographs. They also learn a variety of computer skills

related to yearbook production and sales.

ERIE COUNTY TECHNICAL SCHOOL

COMMUNICATIONS

880/828 ART AND DESIGN

Course Description: The Art & Design program helps students develop and expand their artistic talents as they prepare for a career in the business world of art. Graduates are prepared to go on to college or a post-secondary art school having had courses in areas such as color theory, perspective and illustrative drawing, lettering, photography and graphic design. Students completing the Art & Design program can earn up to 15 credits at the Art Institute of Pittsburgh.

882/830 COMPUTER INFORMATION SYSTEMS

Course Description: Prepares students to major in a wide variety of computer related fields. This course exposes students to computer operations, data entry and computer programming in both present and future practices in the ever changing world of data management. Several post-secondary schools offer academic credits to ECTS graduates in areas such as information management and programming.

887/834 GRAPHIC COMMUNICATIONS

Course Description: exposes students to all aspects of the printing business including design, layout, printing, and finishing of any printed material using computer equipment, darkroom equipment and printing presses. Completers of the graphic communications program receive credits at the Pittsburgh Technical Institute and Tristate and Business Institutes.

CONSTRUCTION

879/827 CONSTRUCTION TRADES

Course Description: This program provides students with the theory and fundamental building skills related to residential construction. Program completers can enter construction management programs at post-secondary schools as the PA College of Technology which is the technical college of Penn State University. Many ECTS graduates move directly into rewarding and successful careers in the construction industry.

890/837 FACILITY MAINTENANCE TECHNOLOGY

Course Description: This program prepares students for employment in the facility engineering or maintenance department of any major business. This versatile program offers several areas of instruction in plumbing, electrical, HVAC, carpentry and machining to become diverse, skilled craftsman. Students are also qualified to attend schools such as the PA College of Technology to earn a degree in a related field.

HUMAN SERVICES

894/840 EARLY CHILDHOOD EDUCATION

Course Description: This program students develop a strong background in child development and are well prepared to enter many fields related to education at the elementary or early childhood level. ECTS operates the Tech Tikes Preschool which gives high school students the opportunity to work with children from the community in the areas of nutrition, art, music and literature while learning about the growth and development of children. Students receive credit from several colleges towards a degree in education upon completion of this program.

883/831 COSMETOLOGY

Course Description: This program teaches the art and science of cutting, coloring and processing of hair, nails, skin care and makeup. The program is designed to prepare students for the Pennsylvania State Board entrance exam. Upon passing the state exam students are licensed to work in the growing field of cosmetology in any established salon. Students are also encouraged to take business courses at the collegiate level so they will be qualified to operate and manage their own business.

881/829 CULINARY ARTS

Course Description: In this program, students are taught all of the areas related to food preparation. An instructional kitchen is utilized to prepare lunches and deli services for the students and faculty. Students are prepared to continue their education at a college or technical institute for hotel and restaurant management or to further develop their skills to become a certified chef.

889/836 HEALTH ASSISTANT

Course Description: The program prepares students for a variety of health related careers most of which require additional education at the post-secondary level. In this rigorous program, students learn medical terminology, anatomy, physiology and how to perform basic medical procedures. Many health assistant graduates continue their education to become registered nurses or enter into related health care careers.

MANUFACTURING

893/839 ELECTRICAL ENGINEERING

Course Description: The program is designed to provide students with a solid background in electrical systems including hydraulics, pneumatics, motor control, programmable logic controls and residential wiring. Several colleges and post-secondary schools award students credits for completion of the electrical engineering program including Edinboro University.

885/833 ELECTRONICS

Course Description: The program instructs in the details of working with digital equipment. Upon completion of the program students pursue careers in the areas of computer and electronic equipment repair, installation and maintenance as well as a wide variety of related careers. Students choosing to continue their education at the post-secondary level are prepared to major in areas such as electrical engineering and electrical grafting.

892/838 METAL FABRICATION

Course Description: This program trains students in the areas of pattern development, fabrication and welding. Students are prepared to enter the workforce in the demanding field of welding or may continue their education in a manufacturing area.

888/835 TOOL & DIE

Course Description: The program gives students the opportunity to manufacture parts from various metals on machines such as CNC lathes, engine lathes, vertical and horizontal milling machines, surface and cylindrical grinders, drill presses and band saw. Students learn the properties of steel, aluminum and brass and gain an understanding of how these properties are applicable in the trade. Students trained in this program develop the necessary skills to be entry-level machinists.

884/832 DRAFTING AND DESIGN

Course Description: This program is for students interested in drafting, mechanical design, engineering or architectural drafting. This program provides the fundamentals of mechanical drafting in addition to AutoCAD. Students utilize various applications to create technical and architectural drawings for the manufacturing and construction industries.

TRANSPORTATION

877/841 AUTOMOTIVE TECHNOLOGIES

Course Description: Changes in automotive technology have increased the importance of the automotive technician. The program provides the students with the theory and practical experience needed to diagnose and repair automotive systems and their components. Students meeting the requirements will be eligible to take the state inspection test for a Class One license. This course covers the repair and maintenance of the ignition system, tires, braking, steering and suspension, alignment, electrical systems, fuel injection, engine repair, engine performance and cooling system. Major and minor tune-up and inspection procedures are also included as well as state emission testing.

877/841 AUTO BODY

Course Description: Students in this program learn all phases of auto body repair including damage analysis, rebuilding, reconditioning, sanding and refinishing, basic metal working and dent repair, frame straightening, spray painting, welding and glass installation. The program uses demonstration automobiles to provide students with the opportunity to develop confidence by applying the theoretical concepts.

JUNIORS/SENIORS ONLY

843 NETWORKING TECHNOLOGIES

Course Description: This two year program teaches students to design, build and maintain computer networks. The curriculum covers a broad range of topics from basic networking skills to more complex concepts such as applying troubleshooting tools. This course is designed to provide students with classroom and laboratory experiences in emerging networking technologies that will empower them to further their education in the networking field. Students who successfully complete this program are eligible to earn Cisco Certified Network Associate (CCNA™).

The curriculum includes the following: OSI model industry standards; networking topologies; IP addressing, including subnet masks; networking components; basic network design; beginning router configuration; routed and routing protocols; advanced router configurations; LAN switched design; Novell IPX; WAN theory and design; WAN technology, PPP, frame relay, ISDN; and network troubleshooting.

844 TOURISM AND HOSPITALITY MANAGEMENT

Course Description: This two-year tourism & lodging management program has everything you will need to get started on a hospitality career. In this program, students participate in classroom activities that teach valuable lodging skills and knowledge. Students will also participate in internships supervised by the instructor and a worksite mentor. Major instructional units in the curriculum include: an overview of lodging management, the front office, housekeeping, leadership and management, marketing and sales, and food and beverage service. This program corresponds to competency lists used in the American Hotel & Motel Association's Educational Institute's post-secondary curriculum and forms the basis for articulation agreements with colleges and universities.

900 ADVANCED PLACEMENT INDEPENDENT STUDY CREDIT=1

Course Description: Advanced Placement exams are administered in May of each year by the College Board. They are intended as a means for qualified students to receive college credits for skills and knowledge acquired in a particular subject while in high school.

AP independent study programs are opportunities for students to prepare for Advanced

Placement exams in subject areas for which Northwestern does not have an Advanced Placement course. They are offered to juniors and seniors.

Students will be linked with a mentor who will meet weekly to guide them through an organized course of study that will cover the material to be tested on the AP exam.

AP independent study programs are much more difficult than Advanced Placement classes. Student should have strong study skills and work habits and should have demonstrated an ability and willingness to maintain a 4.0 G.P.A.

Juniors or seniors desiring an AP independent study program must have approval from the guidance counselor and principal, and should have positive recommendations from teachers of related subjects, as well as from English teachers for those exams which include an essay component.

AP subject areas that might be possibilities for independent study include: Art History, Studio Art, Biology, Calculus, Chemistry, Computer Science, Economics, Environmental Science, French, German, Geography, Government and Politics, World History, Latin, Music Theory, Physics, Psychology, Spanish, and Statistics.

RCI- REGIONAL CHOICE INITIATIVE (DUAL ENROLLMENT)

RCI offers courses through Edinboro University and Gannon University during the regular school day and schedule. Courses are taught at a central site (Erie County Tech School Skill Center) and transportation is provided by Northwestern School District. Students can take 6 college credits each semester during their junior and senior year. Classes are offered two mornings each week, and students return to Northwestern for afternoon classes.

